

What Is Claimed Is:

1. A branching filter comprising a SAW resonator, further comprising:

a transmission SAW filter linked between an antenna terminal and a transmission terminal;

a receiving SAW filter with different bandpass characteristics from said transmission SAW filter linked between said antenna terminal and said transmission terminal;

a composite circuit that combines a frequency adjusting LC circuit linked between said antenna terminal and said transmission and receiving SAW filters with a branching filter circuit; and

said branching filter circuit being structured to have a serial arm SAW resonator.

2. The branching filter according to claim 1, wherein, between said antenna terminal and said transmission SAW filter, said composite circuit has a structure with said frequency adjusting LC circuit which is connected to said antenna terminal and a Tx-branch filter circuit strip line connected as said branching filter circuit between said LC circuit and said transmission SAW filter.

3. The branching filter according to claim 1, wherein, between said antenna terminal and said transmission SAW filter, said composite circuit has a structure with only said frequency adjusting LC circuit connected between said antenna terminal and said transmission SAW filter.

4. The branching filter according to claim 1, wherein, between said antenna terminal and said receiving SAW filter, said composite circuit has a structure with said frequency adjusting

DC circuit which is connected to said antenna terminal and an Rx-branch filter circuit strip line connected as said branching filter circuit between said LC circuit and said receiving SAW filter.

5. The branching filter according to claim 1, wherein said transmission SAW filter and said receiving SAW filter are formed on one common piezoelectric substrate.

6. The branching filter according to claim 1, wherein said transmission SAW filter, said receiving SAW filter, and said branching filter circuit are formed on one common piezoelectric substrate.

7. The branching filter according to claim 4, wherein said transmission SAW filter, said frequency adjusting LC circuit, said Rx-branching filter circuit strip line, and said receiving filter are formed on one common piezoelectric substrate.

8. The branching filter according to claim 1, wherein said transmission SAW filter, said receiving SAW filter, and said branching filter circuit are formed on one common piezoelectric substrate, and said frequency adjusting LC circuit is provided outside the piezoelectric substrate.

9. The branching filter according to claim 1, wherein said transmission SAW filter and said receiving SAW filter are in some cases formed together with said branching filter circuit and/or said frequency adjusting LC circuit on one common piezoelectric substrate, and said piezoelectric substrate is incorporated onto an on-board substrate.

10. The branching filter according to claim 1, comprising a composite SAW resonator formed by a first level serial arm SAW

resonator on the side of said antenna terminal of one or both filters
of said transmission SAW filter and said receiving SAW filter and
said serial arm SAW resonator of said branching filter circuit.

add
B1 >

add
C7 >

add
D3 >